Data sheet



DME5000-222

DME5000

TIME-OF-FLIGHT SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
DME5000-222	1024086

Other models and accessories ➜ www.sick.com/DME5000

Detailed technical data

Features

Measuring range	0.15 m ... 150 m, on “diamond grade” reflective tape [1]
Target	Reflector
Resolution	0.05 mm ... 5 mm
Repeatability	1 mm [1] [2]
Measurement accuracy	± 3 mm
Response time	6 ms
Output time	2 ms
Light source	Laser, red [3] visible red light
Type of light	Visible red light
Laser class	2, complies with 21 CFR 1040.10 and 1040.11 except for the conformance according to “Laser Notice No. 50” from June 24, 2007 (IEC 60825-1:2014, EN 60825-1:2014)
Typ. light spot size (distance)	130 mm (at 70 m) 270 mm (at 150 m) 360 mm (at 220 m)
Max. movement speed	10 m/s
Safety-related parameters	
$MTTF_D$	101 years
DC_{avg}	0%

[1] On “diamond grade” reflective tape.
[2] Statistical error 1 σ, environmental conditions constant, min. warm-up time 10 min.
[3] Average service life of 50,000 h at T_A = +25 °C.

Interfaces

PROFIBUS DP	✓
Digital output	

[1] Max. 100 nF/20 mH.
[2] HIGH = > V_S - 3 V / LOW = < 2 V.
[3] HIGH = > 12 V / LOW = < 3 V.
[4] Not reverse-polarity protected.

Number	2
Type	Push-pull: PNP/NPN
Maximum output current I_A	≤ 100 mA [1) 2)]
Multifunctional input (MF)	1 x MF [3) 4)]

1) Max. 100 nF/20 mH.
2) HIGH = > V_S - 3 V / LOW = < 2 V.
3) HIGH = > 12 V / LOW = < 3 V.
4) Not reverse-polarity protected.

Electronics

Supply voltage U_B	DC 18 V ... 30 V, limit values
Current consumption	At 24 V DC < 1,000 mA
Ripple	< 5 V_{pp} [1)]
Initialization time	1.5 s [2)]
Indication	Display
Enclosure rating	IP65
Protection class	II [3)]

1) May not fall short of or exceed V_S tolerances.
2) After loss of reflector < 1 s at max. speed V_{max} < 1 m/s.
3) Reference voltage DC 32 V.

Mechanics

Dimensions (W x H x D)	61 mm x 101 mm x 176 mm
Housing material	Metal (zinc diecast)
Window material	Glass
Weight	Approx. 1,650 g
Connection type	Male connector, 2 x M12, 5-pin, B-coded, 1 x M16, 8-pin, B-coded

Ambient data

Ambient temperature, operation	–40 °C ... +55 °C, operation with heating –40 °C ... +75 °C, operation with cooling case
Ambient temperature, storage	–25 °C ... +75 °C
Effect of air pressure	0.3 ppm/hPa
Effect of air temperature	1 ppm/K
Temperature drift	Typ. 0.1 mm/K
Typ. Ambient light immunity	≤ 40,000 lx
Mechanical load	Shock: (EN 600 68-2-27 / –2-29) Sine: (EN 600 68-2-6) Noise: (EN 600 68-2-64)
Electromagnetic compatibility (EMC)	EN 61000-6-2, EN 55011

Certificates

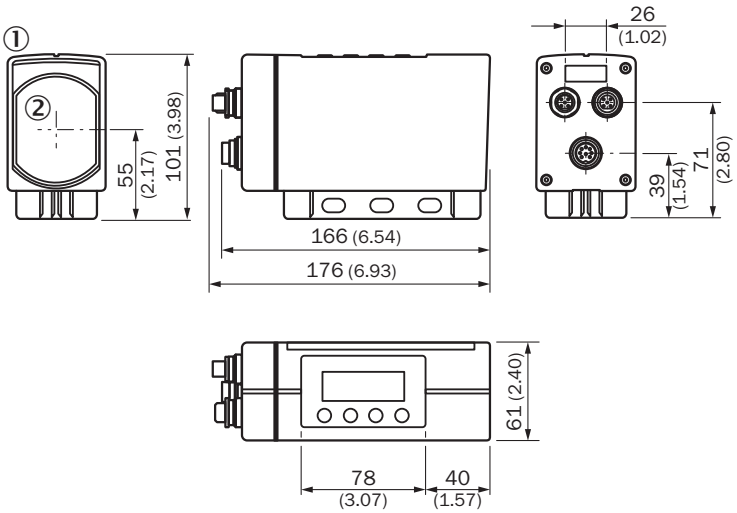
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓

China-RoHS	✓

Classifications

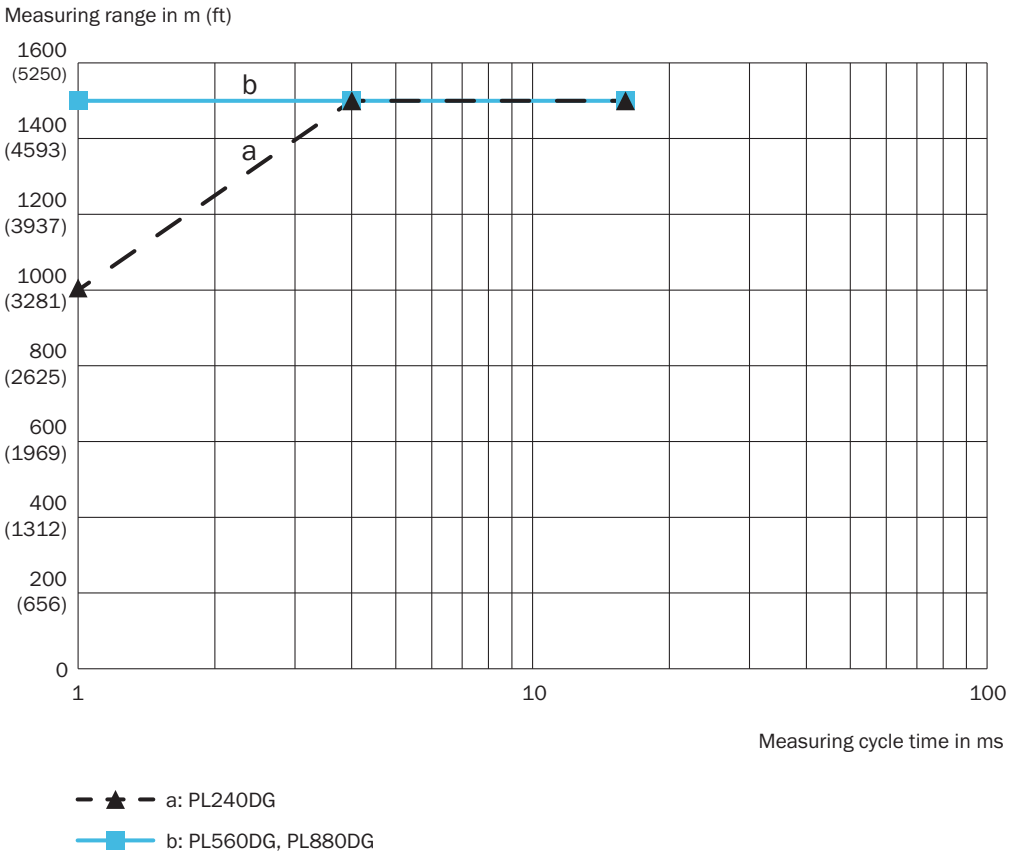
ECLASS 5.0	27270801
ECLASS 5.1.4	27270801
ECLASS 6.0	27270801
ECLASS 6.2	27270801
ECLASS 7.0	27270801
ECLASS 8.0	27270801
ECLASS 8.1	27270801
ECLASS 9.0	27270801
ECLASS 10.0	27270801
ECLASS 11.0	27270801
ECLASS 12.0	27270916
ETIM 5.0	EC001825
ETIM 6.0	EC001825
ETIM 7.0	EC001825
ETIM 8.0	EC001825
UNSPSC 16.0901	41111613

Dimensional drawing DME5000 PROFIBUS

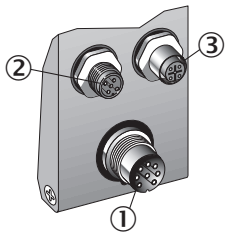


Dimensions in mm (inch)
① LC display
② Center of optical axis

Working range diagram DL1000 measuring range based on measurement cycle time and reflector type

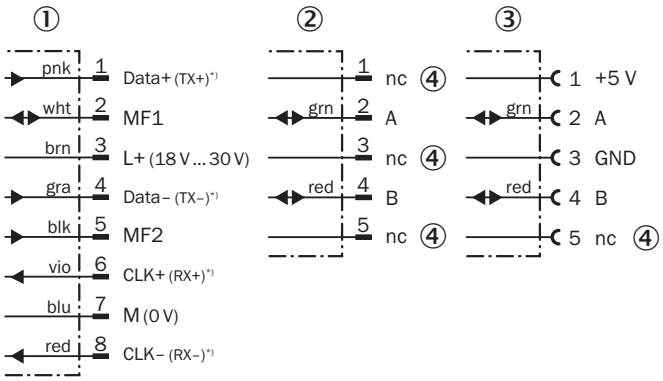


Connection type DME4/5xxx PROFIBUS Connector 2 x M12, 5-pin, B-coded, BUS IN, BUS OUT, 1 x M16, 8-pin



① Connector M16, 8-pin
② Connector M12, 5-pin, B-coded, BUS IN
③ Connector M12, 5-pin, B-coded, BUS OUT

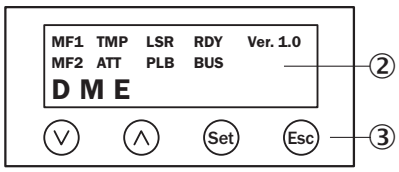
Connection diagram



*) For connection of interface adapter.

① Connector M16, 8-pin
② Connector M12, 5-pin, B-coded, BUS IN
③ Connector M12, 5-pin, B-coded, BUS OUT
④ Not assigned

Adjustment possible



② LC display
③ Keypad

Recommended accessories

Other models and accessories ➜ www.sick.com/DME5000

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Alignment unit for DME5000, stainless steel (1.4541), incl. mounting material, additional base plate mounting kit required • **Items supplied:** Mounting hardware included	BEF-AH-DME	2027721
reflectors and optics			
	• **Description:** Reflector plate, “diamond grade” reflective tape, 665 mm x 665 mm, base plate material: aluminum, screw connection • **Ambient operating temperature:** –25 °C ... +65 °C	PL560DG	1016806

	Brief description	Type	part no.
connectors and cables			
	• **Connection type head A:** Female connector, M12, 5-pin, A-coded • **Connection type head B:** Flying leads • **Signal type:** Power, CAN • **Cable:** 5 m, 5-wire • **Description:** Power, unshieldedCAN	DOL-1205-G05M_Can	6021166
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Fieldbus, CANopen, DeviceNet™ • **Cable:** 10 m, 5-wire, PUR, halogen-free • **Description:** Fieldbus, shieldedCANopenDeviceNet™ • **Connection systems:** Flying leads • **Note:** Shielded on pin 1	YF2A14-100C1BXLEAX	6021175
	• **Connection type head A:** Female connector, M12, 8-pin, straight • **Connection type head B:** Flying leads • **Cable:** 2 m, 8-wire, PUR, halogen-free • **Description:** Shielded • **Connection systems:** Flying leads	YF2A68-020XXXXLEAX	6032448
	• **Connection type head A:** Female connector, M12, 8-pin, straight • **Connection type head B:** Flying leads • **Cable:** 5 m, 8-wire, PUR, halogen-free • **Description:** Shielded	YF2A68-050XXXXLEAX	6032449
	• **Connection type head A:** Female connector, M12, 8-pin, straight • **Connection type head B:** Flying leads • **Cable:** 10 m, 8-wire, PUR, halogen-free • **Description:** Shielded	YF2A68-100XXXXLEAX	6032450
	• **Connection type head A:** Female connector, M12, 5-pin, straight, B-coded • **Connection type head B:** Flying leads • **Signal type:** PROFIBUS DP • **Cable:** 10 m, 2-wire, PUR, halogen-free • **Description:** PROFIBUS DP, twisted pair, shielded • **Connection systems:** Flying leads • **Application:** Zones with oils and lubricants	DOL-1205-G10MQ	6026008
	• **Connection type head A:** Female connector, M12, 5-pin, straight, B-coded • **Connection type head B:** Flying leads • **Signal type:** PROFIBUS DP • **Cable:** 5 m, 2-wire, PUR, halogen-free • **Description:** PROFIBUS DP, twisted pair, shielded • **Connection systems:** Flying leads • **Application:** Zones with oils and lubricants	DOL-1205-G05MQ	6026006
	• **Connection type head A:** Male connector, M12, 4-pin, straight, B-coded • **Signal type:** PROFIBUS DP • **Description:** PROFIBUS DP, terminal resistor	STE-END-Q	6021156
	• **Connection type head A:** Female connector, M12, 5-pin, straight, B-coded • **Connection type head B:** Flying leads • **Signal type:** PROFIBUS DP • **Cable:** 15 m, 2-wire, PUR, halogen-free • **Description:** PROFIBUS DP, twisted pair, shielded • **Connection systems:** Flying leads • **Application:** Zones with oils and lubricants	DOL-1205-G15MQ	6032637
	• **Connection type head A:** Male connector, M12, 5-pin, straight, B-coded • **Connection type head B:** Flying leads • **Signal type:** PROFIBUS DP • **Cable:** 5 m, 2-wire, PUR, halogen-free • **Description:** PROFIBUS DP, twisted pair, shielded • **Note:** Wire shield Al-Pt film, overall shield C-screen tin-plated • **Application:** Zones with oils and lubricants, Drag chain operation	STL-1205-G05MQ	6026005
	• **Connection type head A:** Male connector, M12, 5-pin, straight, B-coded • **Connection type head B:** Flying leads • **Signal type:** PROFIBUS DP • **Cable:** 10 m, 2-wire, PUR, halogen-free • **Description:** PROFIBUS DP, twisted pair, shielded • **Note:** Wire shield Al-Pt film, overall shield C-screen tin-plated	STL-1205-G10MQ	6026007

	Brief description	Type	part no.
	• **Application:** Zones with oils and lubricants, Drag chain operation		
	• **Connection type head A:** Male connector, M12, 5-pin, straight, B-coded • **Connection type head B:** Flying leads • **Signal type:** PROFIBUS DP • **Cable:** 15 m, 2-wire, PUR, halogen-free • **Description:** PROFIBUS DP, twisted pair, shielded • **Application:** Zones with oils and lubricants, Drag chain operation	STL-1205-G15MQ	6036898
	• **Connection type head A:** Female connector, M12, 5-pin, straight • **Connection type head B:** Flying leads • **Signal type:** CANopen • **Cable:** 6 m • **Description:** CANopen, shielded	DOL-1205-G06MK	6028326
	• **Connection type head A:** Female connector, 7/8", 5-pin, straight • **Signal type:** DeviceNet™, CANopen • **Description:** DeviceNet™, terminal resistor, shieldedCANopen • **Permitted cross-section:** ≤ 1.5 mm² • **Note:** For field bus technology	DOS-7805-GKEND	6028329
	• **Connection type head A:** Female connector, M16, 8-pin, straight • **Connection type head B:** Flying leads • **Cable:** 5 m, PUR, halogen-free • **Description:** Shielded	YF2Z18-050XXXXLE-BX	2026742
	• **Connection type head A:** Female connector, M16, 8-pin, straight • **Connection type head B:** Flying leads • **Cable:** 10 m, PUR, halogen-free • **Description:** Shielded	YF2Z18-100XXXXLE-BX	2027193

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

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